## CLAIMS:

We claim:

omprising:

A hardware-implemented color video data correction filtering system,

a plurality of linearization tables to gamma decompensate input color video data referenced to a non-linear color space;

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a plurality of a set of pre-calculated gamut shifting arrays to compensate for color point data of a plurality of constituent colors of a color monitor with each set of pre-calculated gamut shifting arrays coupled to one linearization table of the plurality of linearization tables;

a plurality of hardware adders with each hardware adder coupled to one of the set of pre-calculated gamut shifting arrays; and

a plurality of non-linearization tables coupled to the plurality of hardware adders to compensate for non-linearities of the color monitor and produce output color video data compensated for non-linearities and color points of the color monitor.

2. The color filtering system of claim 1, wherein the plurality of linearization tables comprises three linearization tables, the set of pre-calculated gamut shifting arrays comprises three pre-calculated gamut shifting arrays, the plurality of a set of pre-calculated gamut shifting arrays comprises nine pre-calculated gamut shifting arrays, the plurality of non-linearization tables comprises three\non-linearization tables, and the plurality of constituent colors comprises three constituent colors.

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- The color filtering system of claim 1, wherein the non-linear color space is an 3. sRGB color space.

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The color filtering system of claim\1, wherein the plurality of a set of pre-4. calculated gamut shifting arrays is stored in a plurality of look-up tables.

The color filtering system of claim 1, further comprising:

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a graphics controller coupled to the plurality of pre-calculated gamut shifting arrays, wherein compensation for color point data\through utilization of the plurality

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of pre-calculated gamut shifting arrays is performed at the full processing speed of the graphics controller.

- 6. The color filtering system of claim 1, wherein the input color video data is input from a website.
- 7. The color filtering system of claim 1, wherein the non-linearities of the color monitor comprise an input-output characteristic for each constituent color of the color monitor.
  - 8. A computer system, comprising:

a processor;

video memory coupled to the processor; and

- a color video data correction filtering system coupled to the processor, the system comprising:
- a plurality of linearization tables to gamma decompensate input color video data referenced to a non-linear color space;
- a plurality of a set of pre-calculated gamut shifting arrays to compensate for color point data of a plurality of constituent colors of a color monitor with each set of pre-calculated gamut shifting arrays coupled to one linearization table of the plurality of linearization tables;
- a plurality of hardware adders with each hardware adder coupled to one of the set of pre-calculated gamut shifting arrays; and
- a plurality of non-linearization tables coupled to the plurality of hardware adders to compensate for non-linearities of the color monitor and produce output color video data compensated for non-linearities and color point of the color monitor.
- 9. The computer system of claim 8, wherein the plurality of linearization tables comprises three linearization tables, the set of pre-calculated gamut shifting arrays comprises three pre-calculated gamut shifting arrays, the plurality of a set of pre-calculated gamut shifting arrays comprises nine pre-calculated gamut shifting arrays, the plurality of non-linearization tables comprises three non-linearization tables, and the plurality of constituent colors comprises three constituent colors.

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- 10. The computer system of claim 8, wherein the plurality of constituent colors referenced to the non-linear color space are from a website.
- 11. The computer system of claim 8, wherein the non-linear color space is an sRGB color space.
- 5 12. The computer system of claim 8, wherein the plurality of pre-calculated gamut shifting arrays is stored in a plurality of look-up tables.
  - 13. The computer system of claim 8, wherein the non-linearities of the color monitor comprise an input-output characteristic for each constituent color of the color monitor.
    - 14. The computer system of claim 8, further comprising:
  - a graphics controller coupled to the plurality of pre-calculated gamut shifting arrays, wherein compensation for color point data through utilization of the plurality of pre-calculated gamut shifting arrays is performed at the full processing speed of the graphics controller.
  - 15. A hardware-implemented method of color video data correction filtering, comprising the steps of:

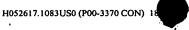
gamma decompensating input color video data referenced to a non-linear color space;

compensating for color point data of a plurality of constituent colors of a color monitor by applying a plurality of pre-calculated gamut shifting arrays to the color point data; and

compensating the color point data after application of the plurality of precalculated gamut shifting arrays for non-linearities of the color monitor by applying a plurality of non-linearization tables to the color point data to produce output color video data compensated for non-linearities and color points of the color monitor.

16. The method of claim 15, wherein the input color video data referenced to the non-linear color space is from a website.

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- The method of claim 15, wherein the non-linear color space is an sRGB color 17. space.
- The method of claim 13, wherein the plurality of pre-calculated gamut shifting 18. arrays are stored in a plurality of look-up tables.
- The method of claim 15, wherein each of the steps of gamma decompensating, 19. compensating using the plurality of pre-calculated gamut shifting arrays and compensating using the plurality of non-linearization tables is performed at a substantially full video rate.